

WHAT IS CLAIMED IS:

- 1 1. A method of reducing noise and power supply instability problems during OBIRCH  
2 analysis testing of circuit elements requiring a precise operating or core voltage comprising the  
3 steps of:
  - 4 providing an OBIRCH analysis circuit having I/O terminals;
  - 5 connecting a circuit element to be tested to said OBIRCH analysis circuitry;
  - 6 connecting a power source having a positive and a negative output across said I/O  
7 terminals for providing a known voltage to said OBIRCH analysis circuit;
  - 8 connecting a diode circuit across said positive and negative outputs of said power source,  
9 said diode circuit comprising the steps of connecting the anode of a common or bi-polar diode to  
10 said positive output and connecting the cathode of said bi-polar diode to the anode of the first  
11 one of a plurality of Schottky diodes serially connected, cathode-to-anode, and coupling said  
12 negative output of said power source to the cathode end of said plurality of serially connected  
13 Schottky diodes, such that a precise and different voltage selection is available at the anode of  
14 each Schottky diode of said series;
  - 15 connecting one of said precise voltage selections to said circuit element to be tested as its  
16 core or operating voltage; and
  - 17 running an OBIRCH circuit analysis on said circuit element to be tested.
- 1 2. The method of claim 1 wherein said diode circuit further comprises a second common or  
2 bi-polar diode having its anode connected at the cathode end of said plurality of serially  
3 connected Schottky diodes and with its cathode connected to the negative terminal of said power  
4 source.

1 3. The method of claim 1 wherein said step of connecting a power source comprises  
2 connecting a power source having an output voltage of approximately 3.6 volts.

1 4. The method of claim 3 wherein said step of connecting a plurality of Schottky diodes  
2 comprises the step of connecting seven Schottky diodes having a forward voltage drop of  
3 approximately 0.3 volts each.

1 5. Circuitry for reducing noise and power supply instability problems during OBIRCH  
2 analysis testing of circuit elements on an integrated circuit requiring a precise operating or core  
3 voltage comprising:

4 an OBIRCH analysis circuit having I/O terminals;

5 an integrated circuit to be tested connected to said OBIRCH analysis circuitry;

6 a power source having a positive and a negative output connected across said I/O  
7 terminals for providing a precise voltage to said OBIRCH analysis circuit;

8 a diode circuit connected across said positive and negative outputs of said power source,  
9 said diode circuit comprising a common or bi-polar diode having its anode connected to said  
10 positive output and its cathode connected to the anode of a plurality of Schottky diodes serially  
11 connected, cathode-to-anode, said negative output of said power source being coupled to the  
12 cathode of the end Schottky diode of said plurality of serially connected diodes, such that a  
13 precise and different voltage selection is available at the anode of each Schottky diode of said  
14 series; and

15 said integrated circuit to be tested connected to one of said precise voltage selections as  
16 its core or operating voltage.

1 6. The circuitry of claim 5 further comprising a second common or bi-polar diode connected  
2 at the other end of said plurality of serially connected Schottky diodes and with its cathode  
3 connected to the negative terminal of said power source.

1 7. The circuitry of claim 5 wherein said power source has an output voltage of  
2 approximately 3.6 volts.

1 8. The circuitry of claim 7 wherein said plurality of serially connected Schottky diodes  
2 comprises seven serially connected diodes each having a forward voltage drop of approximately  
3 0.3 volts each.